UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,217	08/29/2001	Norihiko Shinomiya	FUJH 18.965	6926

26304 7590 08/01/2005

KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER	
CONTINO, PAUL F	
ART UNIT	PAPER NUMBER
2114	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/942,217	SHINOMIYA ET AL.	
	Examiner	Art Unit	
	Paul Contino	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-7,9 and 10* is/are rejected.

7)☒ Claim(s) *3,4,8 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 24, 2005, have been fully considered but they are not persuasive.

Examiner respectfully disagrees with the Applicant's arguments regarding the 35 USC 102(b) rejection by Chow et al.

With respect to the arguments on page 7 in the first paragraph, Chow et al. does in fact disclose a node with a spare communication capacity for a different failure from that detected, as in column 6 line 48, column 6 line 62 through column 7 line 2, and column 13 lines 43-55. This spare communication capacity is interpreted as being available during the searching and updating of a protecting route, where after a switchover to the new protecting route, the spare communication capacity would be available for a different future failure.

With respect to the arguments on page 7 in the second paragraph, Chow et al. does in fact disclose performing path switching within a certain limited time period, as in column 12 lines 1-7 and 28-31, column 14 lines 9-11, 20-22, 49-53, and 59-60, and column 20 lines 17-18. A heuristic algorithm is used to minimize transfer time of messages by setting limits on message transmission time in order to switchover to a new protecting route in the faster possible manner. Because of the limited time for transmission of a message, there will be an overall limited time

constraint applied to the selection of a protection route, such as that disclosed in column 20 lines 3-65, where a time limit of 2 seconds is given.

With respect to the arguments on page 7 in the fourth paragraph, Chow et al. does in fact disclose spare communication capacity and the selection of a protecting route within a limited time period as disclosed above in the Examiner's response to arguments and further below in the claim rejections.

Allowable Subject Matter

2. Claims 3-4, 8, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3 and 4 state determining a switchover time to a protecting route ***calculated by a difference between a given restoration time limit and the transfer time of a failure notification message to each node***. When read within the limitations of the remainder of the claims, the novelty of the invention is apparent.

Claim 8 states ***at the time of the search of another protecting route by affording priority to a link having a large sharable spare communication capacity, a sharable spare communication capacity value exceeding any value assigned to other link is temporarily afforded to a link on a working route, so as to reduce a transfer time of the failure notification message from the failure detection node to each node along the protecting route***. When read within the limitations of the remainder of the claim, the novelty of the invention is apparent.

Claim 11 would be allowable based upon its dependence to claim 3.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 5-7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Chow et al. (U.S. Patent No. 5,495,471).

As in claim 1, Chow et al. discloses a protecting route design method for a communication network including a plurality of nodes having preset information on a protecting route to switch over in parallel from a working route thereto when link or node failure occurs, according to a failure notification message including failure location information being transmitted from a failure detection node to each node (Fig.5; column 6 lines 44-48, where restoration request messages are interpreted as failure notification messages), the protecting route design method comprising the steps of:

searching a protecting route which can minimize a transfer time of the failure notification message from the failure detection node (column 13 lines 32-34 and lines 56-63, and column 14

line 62 through column 15 line 28, where the shortest past heuristic is interpreted as minimization of transfer time); and

then, updating the searched protecting route to a protecting route having a spare communication capacity sharable for a different failure (column 6 line 48, column 6 line 62 through column 7 line 2, column 13 lines 43-55, and column 14 lines 62-64) and having a route switchover time to be completed within a given time limit (column 12 lines 1-7 and 28-31, column 14 lines 9-11, 20-22, 49-53, and 59-60, column 20 lines 17-18, and column 20 lines 3-65, where an exemplary time limit of 2 seconds is given).

As in claim 2, Chow et al. discloses the transfer time of failure notification message from the failure detection node is calculated from a summation of a transmission delay time of the failure notification message being transmitted on communication links and an input and output processing time of the failure notification message processed in the each node (column 20 lines 40-51).

As in claim 5, Chow et al. discloses wherein a restoration time of the protecting route is obtained by calculating a summation of the transfer time of failure notification message to each node and a switchover time to the protecting route in each node, then by extracting the maximum value of the summation for entire nodes along the protecting route (column 20 lines 40-59).

As in claim 6, Chow et al. discloses another protecting route is searched excluding a link which has not any sharable spare communication capacity between the end nodes of the route, so

as to reduce a total spare communication capacity and a route search time (column 15 line 48 through column 16 line 2).

As in claim 7, Chow et al. discloses another protecting route is searched affording priority to a link having a large sharable spare communication capacity between the end nodes of the route, so as to reduce a total spare communication capacity and a route search time (column 13 lines 56-66, where the selection of the restored path based upon bandwidth implies priority of a large sharable spare communication capacity).

As in claim 10, Chow et al. discloses calculation of a transfer time of a failure notification message is selectively employed depending on a topology or a scale of an object communication network, a node equipment specification, and a communication system (column 20 lines 40-51, where it is inherent that the time T required to complete a path and the time t required to process a message is dependent upon the overall communication system including the scale of a network and the node equipment utilized by the network).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al. in view of Suzuki (U.S. Patent No. 6,289,096 B1).

As in claim 9, Chow et al. discloses searching of a protection route. However, Chow et al. fails to disclose exclusion of a node upon exceeding of a predetermined restoration time. Suzuki discloses another protecting route is searched excluding a node at which a transfer time of the failure notification message exceeds a predetermined restoration time, so as to reduce a route search time (column 3 lines 3-13).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the excluding of a node as disclosed by Suzuki in the invention of Chow et al. This would have been obvious because the invention of Suzuki minimizes the cost of network communication (column 1 lines 55-60).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3657.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFC
July 28, 2005

SCOTT BADERMAN
PRIMARY EXAMINER